PIONEER®
The Art of Entertainment

Service Manual

ORDER NO.
CRT2157

BRIDGEABLE POWER AMPLIFIER

GM-X922 X1R/UC, ES, EW
GM-X1022 X1R/UC

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PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS SERVICE INC. P.O.Box 1760, Long Beach, CA 90801-1760 U.S.A.
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE, PTE.LTD. 501 Orchard Road, #10-00, Wheelock Place, Singapore 238880

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.
If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

UC model

CAUTION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.
If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5). When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING

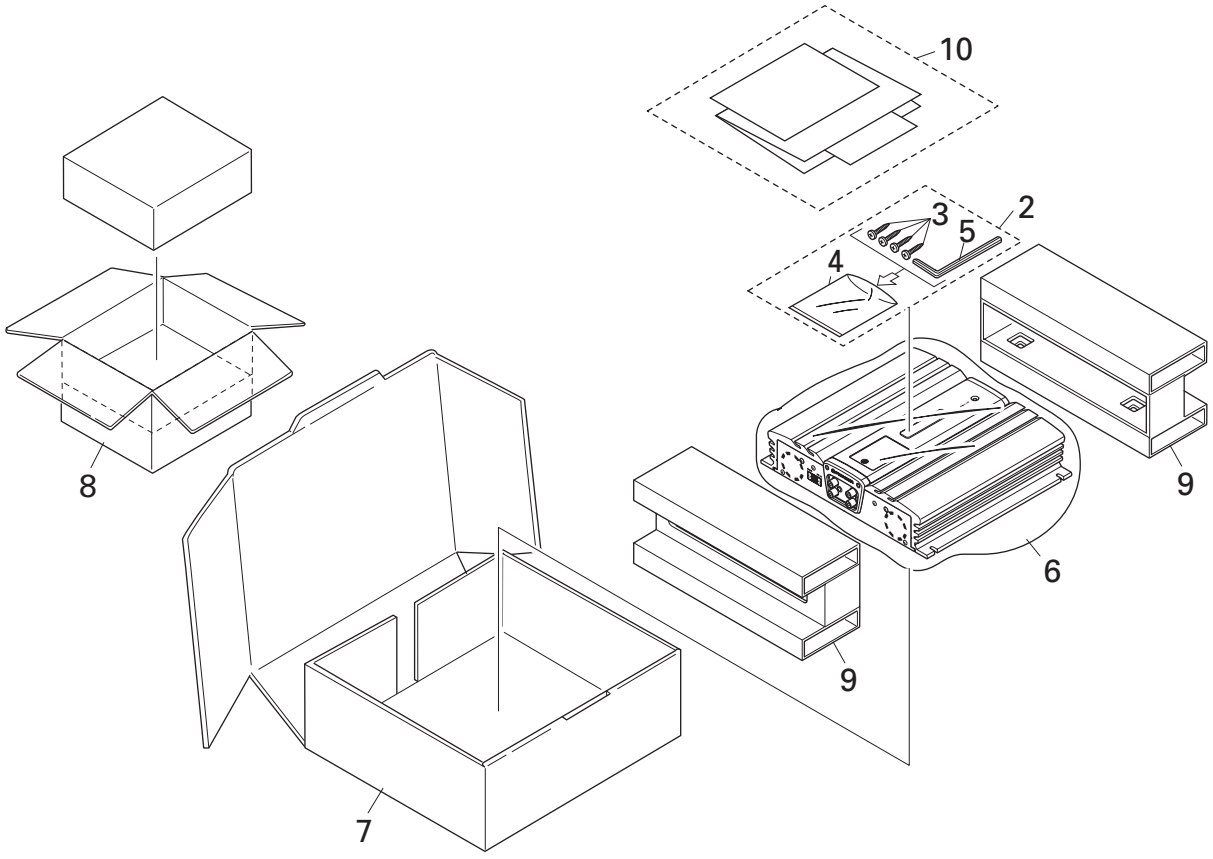


Fig. 1

NOTE:

● Parts marked by "*"are generally unavailable because they are not in our Master Spare Parts List.

● Screws adjacent to ∇ mark on the product are used for disassembly.

(1) PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	•••••	
*	2	Screw Assy	HEA0044
	3	Screw(x4)	BYC40P180FZK
	4	Polyethylene Bag	HEG0011
	5	Wrench	HLP0001
	6	Polyethylene Bag	HEG0013
	7	Carton	See Contrast table (2)
	8	Contain Box(x1/2)	See Contrast table (2)
	9	Protector(x2)	HHP0025
	10-1	Owner's Manual	See Contrast table (2)
	10-2	Owner's Manual	See Contrast table (2)
*	10-3	Card	See Contrast table (2)
*	10-4	Warranty Card	See Contrast table (2)

(2) CONTRAST TABLE

GM-X922/X1R/UC, GM-X922/X1R/ES, GM-X922/X1R/EW and GM-X1022/X1R/UC are constructed the same except for the following:

			Part No.			
			GM-X922			GM-X1022
Mark	No.	Symbol and Description	X1R/UC	X1R/ES	X1R/EW	X1R/UC
	7	Carton	HHG0160	HHG0162	HHG0163	HHG0159
	8	Contain Box	HHL0160	HHL0162	HHL0163	HHL0159
	10-1	Owner's Manual	HRD0061	HRD0062	HRD0063	HRD0060
	10-2	Owner's Manual	Not used	HRD0069	Not used	Not used
*	10-3	Card	ARY1048	Not used	Not used	Not used
*	10-4	Warranty Card	Not used	Not used	HRY1087	HRY1070

● Owner's Manual

Model	Part No.	Language
GM-X922/X1R/UC	HRD0061	English, French
GM-X922/X1R/ES	HRD0062	English, Spanish
	HRD0069	Arabic, Portuguese(B)
GM-X922/X1R/EW	HRD0063	English, French, German, Dutch, Spanish, Italian
GM-X1022/X1R/UC	HRD0060	English, French

2.2 EXTERIOR

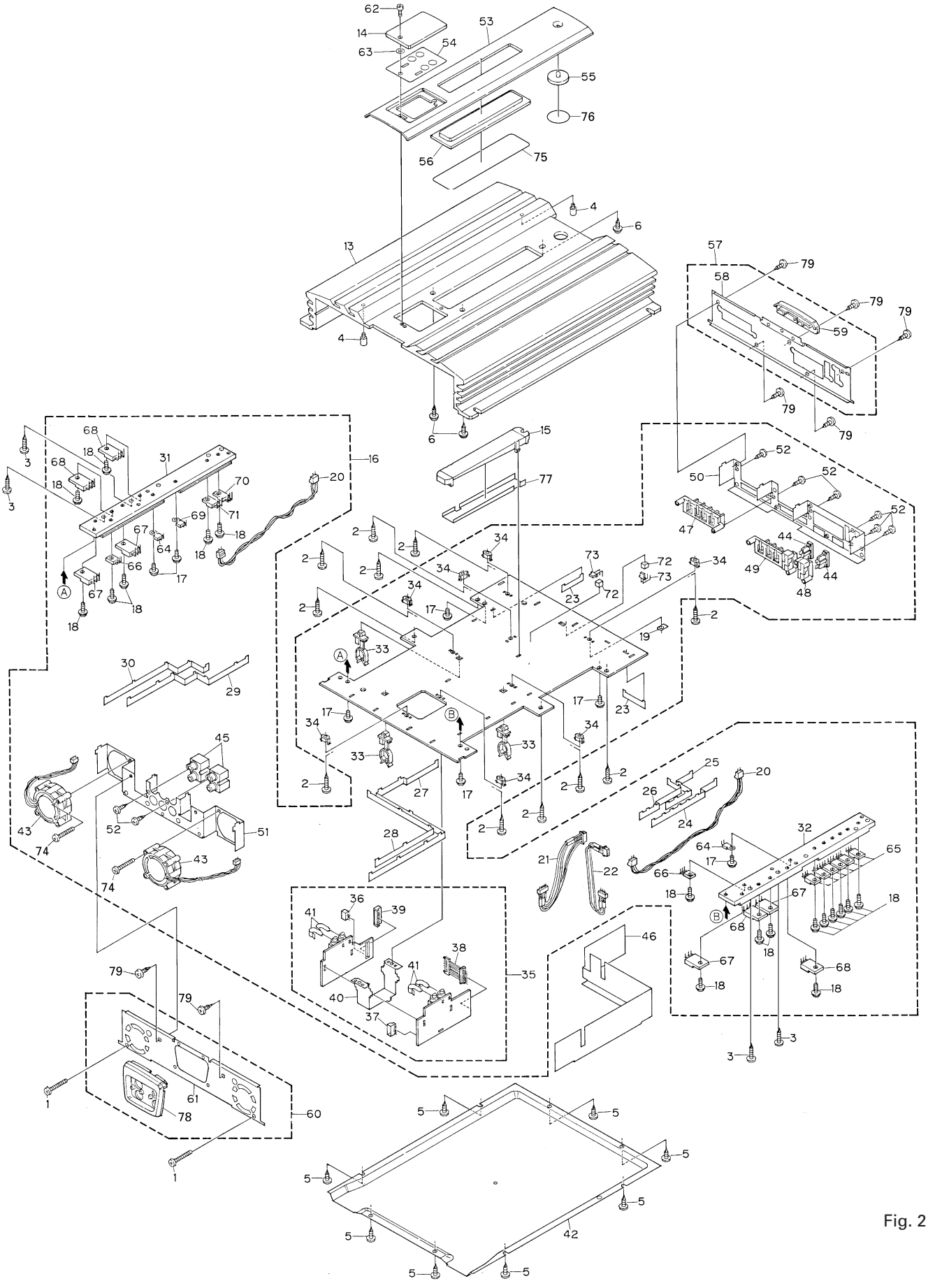


Fig. 2

(1) EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	BMZ30P250FZK
	2	Screw	CBA1323
	3	Screw	CBA1382
	4	Screw	HBA0006
	5	Screw	HBA0011
	6	Screw	HBA0012
	7-12	•••••	
	13	Heat Sink	HNR0094
	14	Window	HNS0053
	15	Lighting Conductor	HNV0012
	16	Amp Unit	See Contrast table (2)
	17	Screw	BMS30P060FZK
	18	Screw	BMS30P080FMC
	19	Terminal(CN905)	CKF1059
	20	Cord	HDE5500
	21	Cord(CN852)	HDE5501
	22	Cord(CN201)	HDE5502
	23	Buss Bar	HNC0043
	24	Buss Bar	HNC0044
	25	Buss Bar	HNC0046
	26	Buss Bar	HNC0047
	27	Buss Bar	HNC0048
	28	Buss Bar	HNC0049
	29	Buss Bar	HNC0050
	30	Buss Bar	HNC0052
	31	Heat Sink(Sub Heat Sink)	HNR0079
	32	Heat Sink(Sub Heat Sink)	HNR0080
	33	Clamper	HNV0015
	34	Spacer	HNV3975
	35	Network Unit	See Contrast table (2)
	36	Plug(CN552)	CKS1037
	37	Plug(CN501)	CKS1053
	38	Connector(CN502)	CKS3799
	39	Connector(CN551)	CKS3800
	40	Holder	HNC0029
	41	Clip	HNC0054
	42	Case	HNB0036
	43	Fan Motor	CXM1133
	44	Fuse(30A)	HEK0030
	45	Pin Jack(CN851, 853)	HKB0002
	46	Separator	HNM0046
	47	Terminal(CN101)	HKE0010
	48	Fuse Holder(CN902)	HKE0012
	49	Terminal(CN901)	HKE0014
	50	Holder	HNC0027
	51	Holder	HNC0028
	52	Screw	PPZ30P060FZK
	53	Plate Unit	See Contrast table (2)
	54	Sheet Unit	See Contrast table (2)
	55	Light Pipe Unit	HXA0201
	56	Plate Unit	See Contrast table (2)
	57	Panel Unit	See Contrast table (2)
	58	Panel	See Contrast table (2)
	59	Plate	See Contrast table (2)
	60	Panel Unit	See Contrast table (2)
	61	Panel	See Contrast table (2)
	62	Screw	SMZ30H080FCR
	63	Washer	HBF0005
	64	Thermistor(TH902, 903)	CCX1013
	65	FET(Q963 - 968)	IRFIZ44N
	66	Transistor(Q162, 262)	2SC1568
	67	Transistor (Q168, 169, 268, 269)	2SA1673
	68	Transistor (Q165, 166, 265, 266)	2SA1673
	69	Thermistor(TH901)	CCX1027
	70	Diode(D961)	FML22R
	71	Diode(D962)	FML22S
	72	Spacer	HNM0053
	73	LED(D903, 904)	See Contrast table (2)
	74	Screw	BMZ30P250FZK
	75	Film	See Contrast table (2)
	76	Film	See Contrast table (2)
	77	Sheet	CNM5852
*	78	Plate	See Contrast table (2)
	79	Screw	BSZ30P050FZK

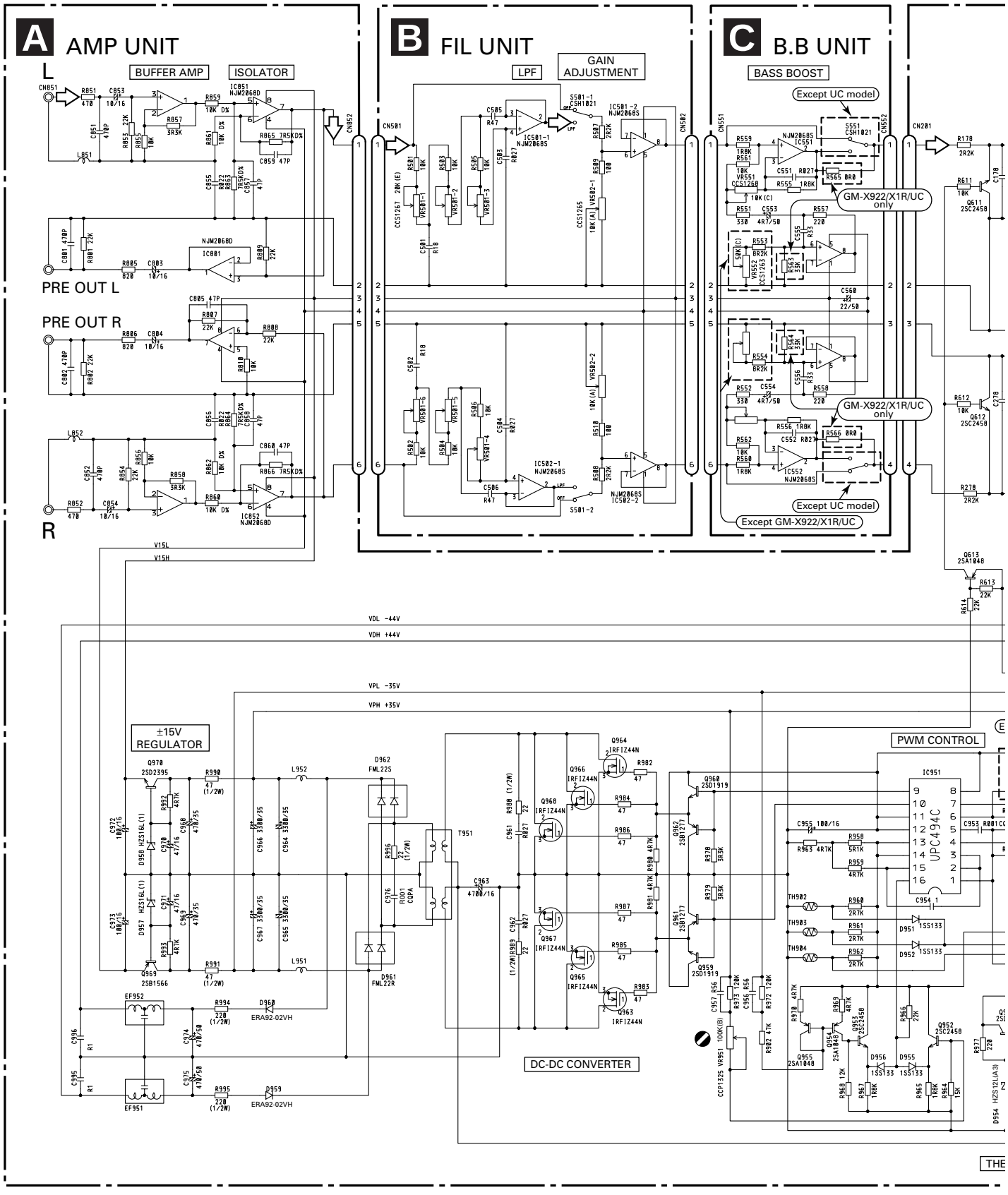
(2) CONTRAST TABLE

GM-X922/X1R/UC, GM-X922/X1R/ES, GM-X922/X1R/EW and GM-X1022/X1R/UC are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.			
			GM-X922			GM-X1022
			X1R/UC	X1R/ES	X1R/EW	X1R/UC
	16	Amp Unit	HWH0072	HWH0070	HWH0069	HWH0071
	35	Network Unit	HWG0014	HWG0012	HWG0011	HWG0013
	53	Plate Unit	HXA0112	HXA0112	HXA0112	HXA0205
	54	Sheet Unit	HXA0119	HXA0117	HXA0117	HXA0262
	56	Plate Unit	HXA0202	HXA0202	HXA0202	HXA0265
	57	Plate Unit	HXA0245	HXA0245	HXA0245	HXA0250
	58	Panel	HNB0040	HNB0040	HNB0040	HNB0065
	59	Plate	HNS0039	HNS0039	HNS0039	Not used
*	59	Plate	Not used	Not used	Not used	HNS0064
	60	Plate Unit	HXA0248	HXA0248	HXA0248	HXA0246
	61	Panel	HNB0044	HNB0044	HNB0044	HNB0042
	73	LED(D903, 904)	NSPBF50S(VQ)	NSPBF50S(VQ)	NSPBF50S(VQ)	NSPWF50S(AQ)
	75	Film	Not used	Not used	Not used	CNM5853
	76	Film	Not used	Not used	Not used	CNM5856
*	78	Plate	HNS0047	HNS0047	HNS0047	Not used
	78	Plate	Not used	Not used	Not used	HNS0066

3. SCHEMATIC DIAGRAM

Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".



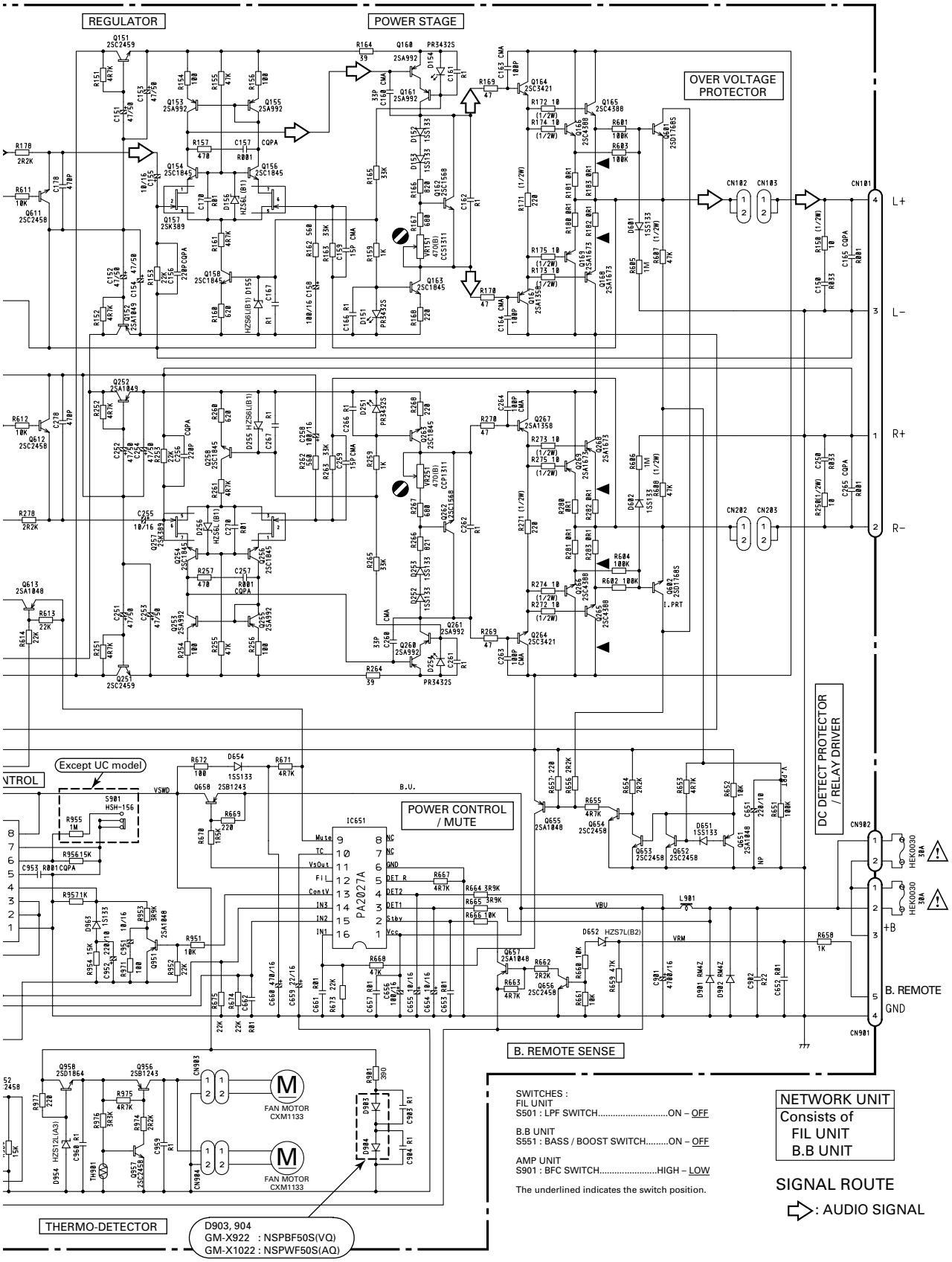
NOTE :

Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.



SWITCHES :
FIL UNIT
S501 : LPF SWITCH.....ON – OFF

B.B UNIT
S551 : BASS / BOOST SWITCH.....ON – OFF

AMP UNIT
S901 : BFC SWITCH.....HIGH – LOW

The underlined indicates the switch position.

NETWORK UNIT
Consists of
FIL UNIT
B.B UNIT

SIGNAL ROUTE
⇨ : AUDIO SIGNAL

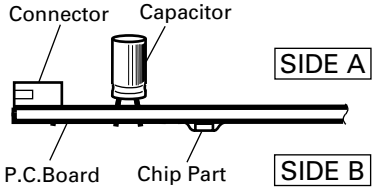
Fig. 3

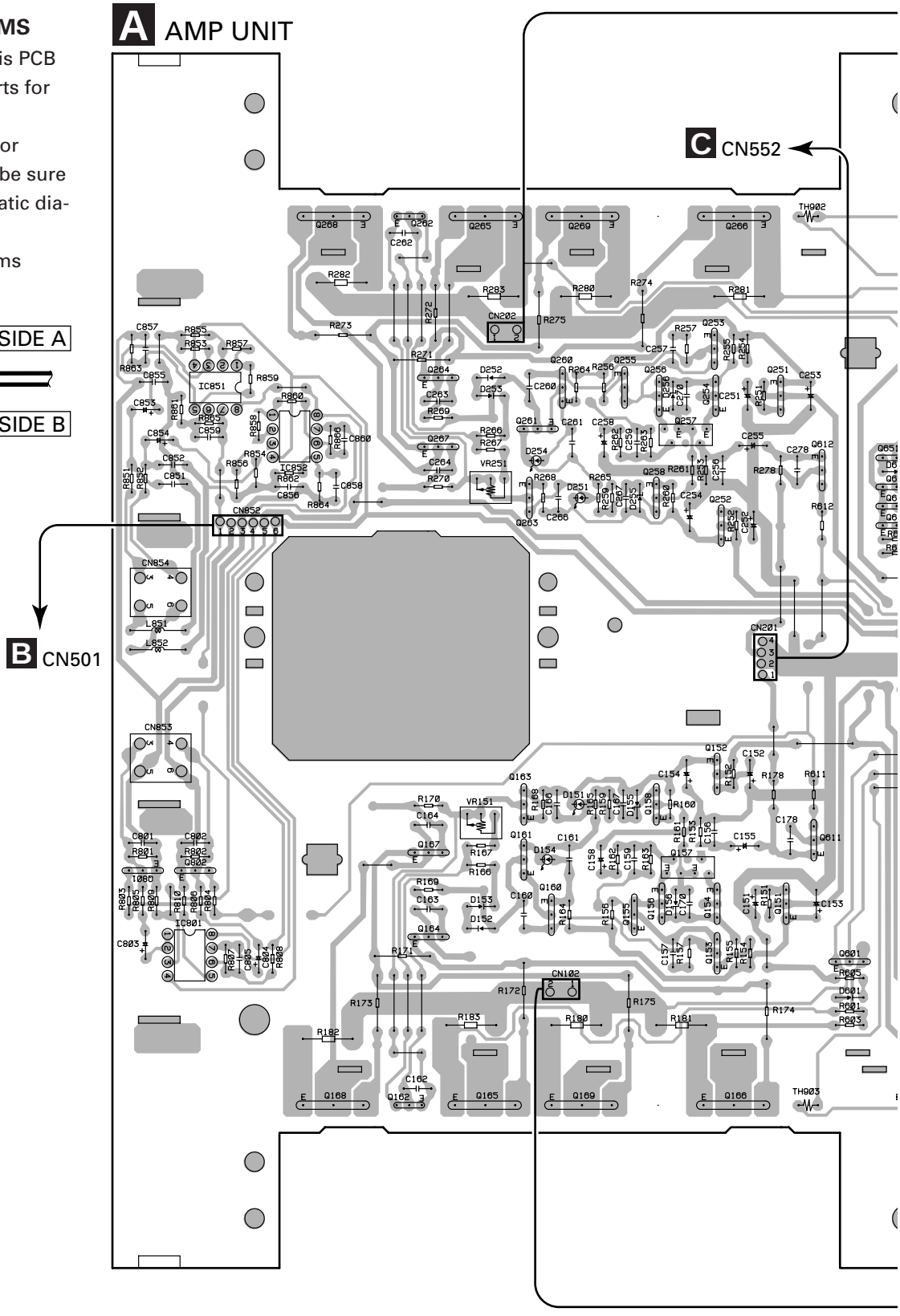
4. PCB CONNECTION DIAGRAM

4.1 AMP UNIT

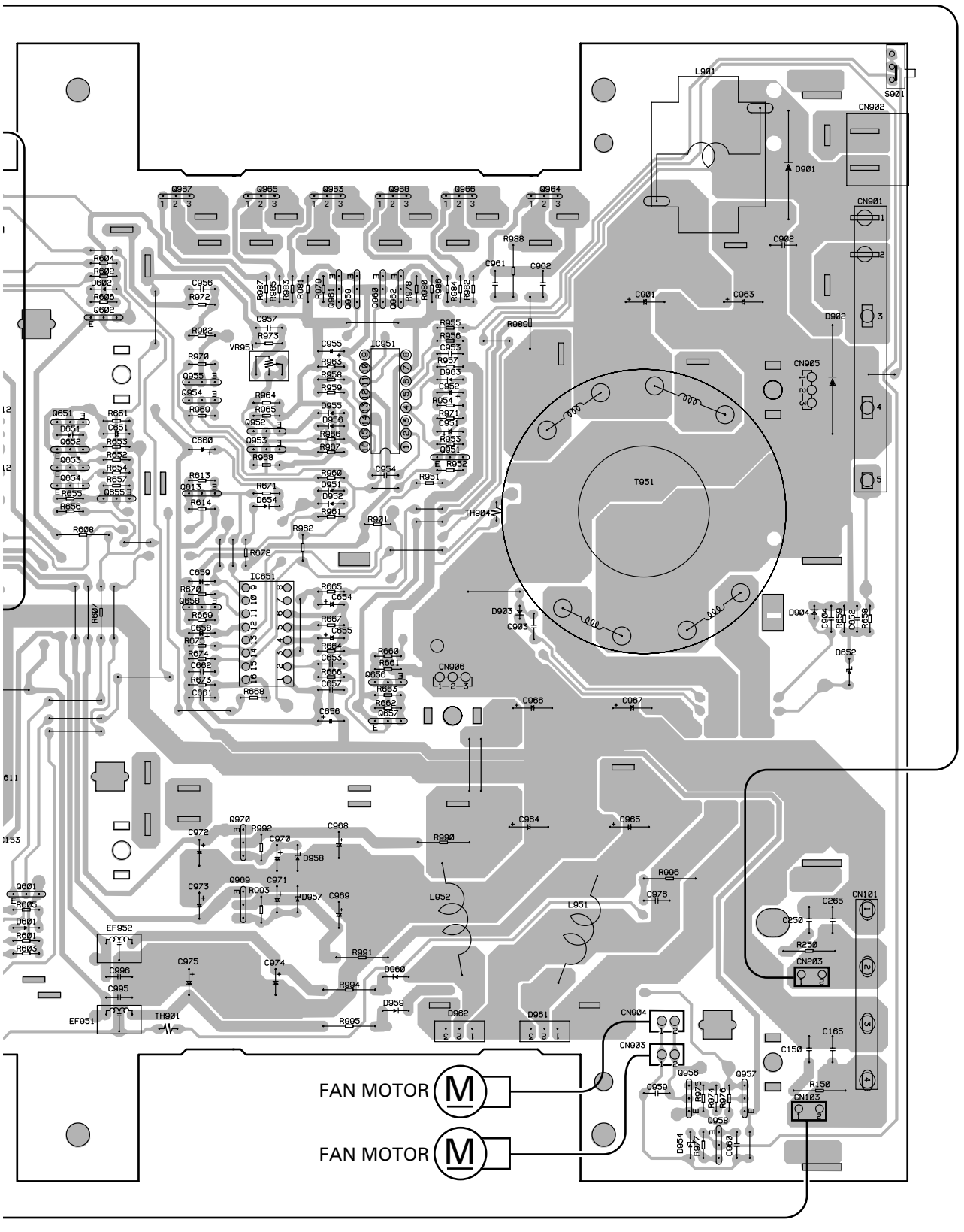
NOTE FOR PCB DIAGRAMS

1. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams





SIDE A



AJD	IC, Q
	Q967 Q965 Q963 Q968 Q966 Q964 Q268 Q262 Q265 Q269 Q266
	Q253 Q961 Q959 Q960 Q962 Q602
	Q260 Q255
VR951	Q264 Q256 Q251 IC951 IC851
	Q254 Q955 Q261 Q257 Q954 Q267 Q612 Q651
VR251	IC852 Q952 Q258 Q652 Q953 Q951 Q252 Q653
	Q263 Q654 Q655 Q613
	IC651
	Q658
	Q656
	Q152
	Q163 Q657
VR151	Q158
	Q161 Q611 Q167 Q157 Q802 Q801 Q160 Q970
	Q156 Q154 Q151 IC801 Q164 Q155
	Q601 Q969 Q153
	Q169 Q166 Q162 Q165 Q168
	Q956 Q957
	Q958

Fig. 4

4.2 FIL UNIT, B.B UNIT

SIDE A

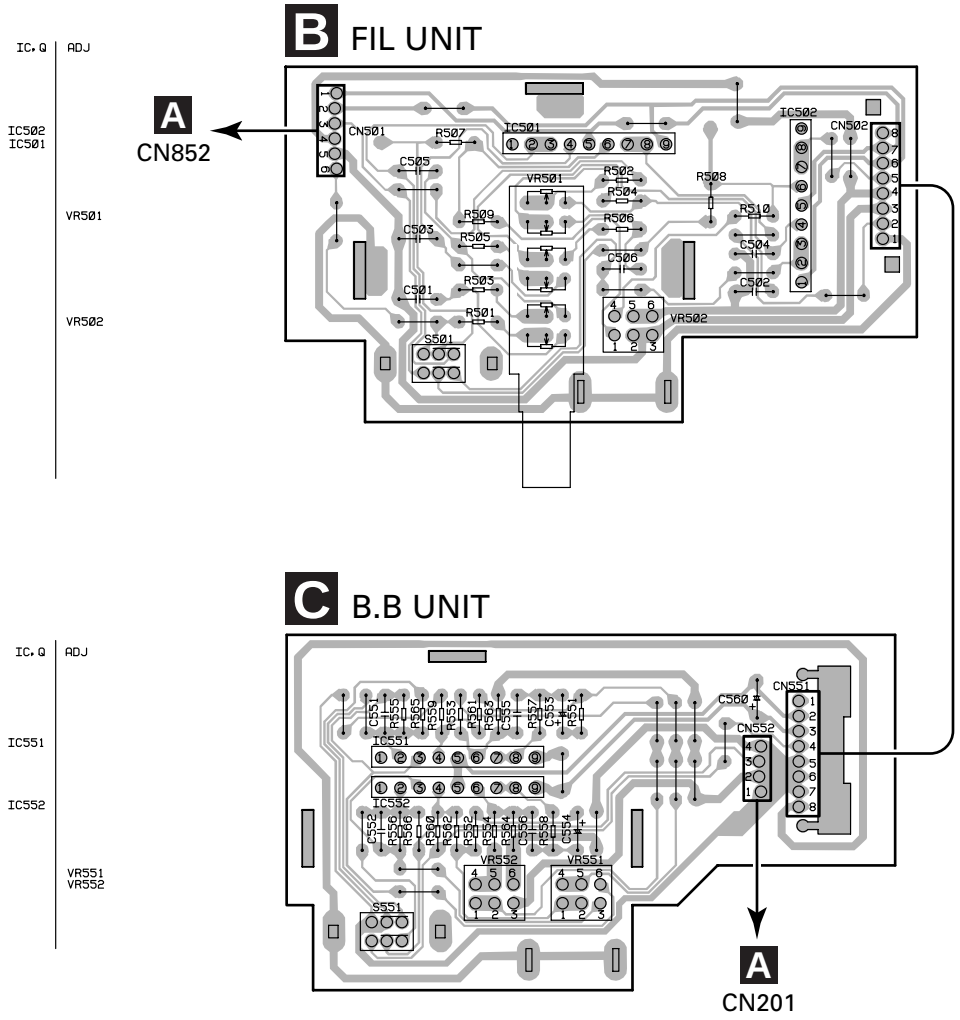


Fig. 5

5. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○J,RS1/○○S○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

GM-X922/X1R/UC

A Unit Number : HWH0072
Unit Name : Amp Unit

MISCELLANEOUS

=====Circuit Symbol and No.		===Part Name	Part No.
IC	651	IC	PA2027A
IC	801	IC	NJM2068D
IC	851	IC	NJM2068D
IC	852	IC	NJM2068D
IC	951	IC	UPC494C
Q	151	Transistor	2SC2459
Q	152	Transistor	2SA1049
Q	153	Transistor	2SA992
Q	154	Transistor	2SC1845
Q	155	Transistor	2SA992
Q	156	Transistor	2SC1845
Q	157	Transistor	2SK389
Q	158	Transistor	2SC1845
Q	160	Transistor	2SA992
Q	161	Transistor	2SA992
Q	162	Transistor	2SC1568
Q	163	Transistor	2SC1845
Q	164	Transistor	2SC3421
Q	165	Transistor	2SC4388
Q	166	Transistor	2SC4388
Q	167	Transistor	2SA1358
Q	168	Transistor	2SA1673
Q	169	Transistor	2SA1673
Q	251	Transistor	2SC2459
Q	252	Transistor	2SA1049
Q	253	Transistor	2SA992
Q	254	Transistor	2SC1845
Q	255	Transistor	2SA992
Q	256	Transistor	2SC1845
Q	257	Transistor	2SK389
Q	258	Transistor	2SC1845
Q	260	Transistor	2SA992
Q	261	Transistor	2SA992
Q	262	Transistor	2SC1568
Q	263	Transistor	2SC1845
Q	264	Transistor	2SC3421
Q	265	Transistor	2SC4388
Q	266	Transistor	2SC4388
Q	267	Transistor	2SA1358
Q	268	Transistor	2SA1673
Q	269	Transistor	2SA1673
Q	601	Transistor	2SD1768S
Q	602	Transistor	2SD1768S
Q	611	Transistor	2SC2458
Q	612	Transistor	2SC2458
Q	613	Transistor	2SA1048
Q	651	Transistor	2SA1048
Q	652	Transistor	2SC2458
Q	653	Transistor	2SC2458
Q	654	Transistor	2SC2458
Q	655	Transistor	2SA1048
Q	656	Transistor	2SC2458
Q	657	Transistor	2SA1048
Q	658	Transistor	2SB1243
Q	951	Transistor	2SA1048
Q	952	Transistor	2SC2458
Q	953	Transistor	2SC2458
Q	954	Transistor	2SA1048
Q	955	Transistor	2SA1048
Q	956	Transistor	2SB1243
Q	957	Transistor	2SC2458
Q	958	Transistor	2SD1864
Q	959	Transistor	2SD1919
Q	960	Transistor	2SD1919
Q	961	Transistor	2SB1277
Q	962	Transistor	2SB1277
Q	963	FET	IRFIZ44N
Q	964	FET	IRFIZ44N
Q	965	FET	IRFIZ44N
Q	966	FET	IRFIZ44N
Q	967	FET	IRFIZ44N
Q	968	FET	IRFIZ44N
Q	969	Transistor	2SB1566
Q	970	Transistor	2SD2395
D	151	Diode	PR3432S
D	152	Diode	1SS133
D	153	Diode	1SS133
D	154	Diode	PR3432S
D	155	Diode	HZS6L(B1)
D	156	Diode	HZS6L(B1)
D	251	Diode	PR3432S
D	252	Diode	1SS133
D	253	Diode	1SS133
D	254	Diode	PR3432S
D	255	Diode	HZS6L(B1)
D	256	Diode	HZS6L(B1)
D	601	Diode	1SS133
D	602	Diode	1SS133
D	651	Diode	1SS133
D	652	Diode	HZS7L(B2)
D	654	Diode	1SS133
D	901	Diode	RM4Z
D	902	Diode	RM4Z
D	903	LED	NSPBF50S(VQ)
D	904	LED	NSPBF50S(VQ)
D	951	Diode	1SS133
D	952	Diode	1SS133
D	954	Diode	HZS12L(A3)
D	955	Diode	1SS133
D	956	Diode	1SS133
D	957	Diode	HZS16L(1)
D	958	Diode	HZS16L(1)
D	959	Diode	ERA92-02VH
D	960	Diode	ERA92-02VH
D	961	Diode	FML22R

Circuit Symbol and No.		Part Name	Part No.
D	962	Diode	FML22S
D	963	Diode	1SS133
L	851	Ferri-Inductor	CTF1007
L	852	Ferri-Inductor	CTF1007
L	901	Choke Coil 50H	CTH1144
L	951	Choke Coil	CTH1211
L	952	Choke Coil	CTH1211
T	951	Transformer	CTT1041
TH	901	Thermistor	CCX1027
TH	902	Thermistor	CCX1013
TH	903	Thermistor	CCX1013
TH	904	Thermistor	CCX1035
VR	151	Semi-fixed 470Ω(B)	CCP1311
VR	251	Semi-fixed 470Ω(B)	CCP1311
VR	951	Semi-fixed 100kΩ(B)	CCP1325
EF	951	Capacitors	CCG-081-
EF	952	Capacitors	CCG-081-

RESISTORS

Circuit Symbol and No.		Part Name	Part No.
R	150		RS1/2PMF100J
R	151		RD1/4PU472J
R	152		RD1/4PU472J
R	153		RD1/4PU223J
R	154		RD1/4PU101J
R	155		RD1/4PU473J
R	156		RD1/4PU101J
R	157		RD1/4PU471J
R	159		RD1/4PU102J
R	160		RD1/4PU621J
R	161		RD1/4PU472J
R	162		RD1/4PU561J
R	163		RD1/4PU333J
R	164		RD1/4PU390J
R	165		RD1/4PU333J
R	166		RD1/4PU821J
R	167		RD1/4PU681J
R	168		RD1/4PU221J
R	169		RD1/4PU470J
R	170		RD1/4PU470J
R	171		RD1/2PM221J
R	172		RD1/2PM100J
R	173		RD1/2PM100J
R	174		RD1/2PM100J
R	175		RD1/2PM100J
R	178		RD1/4PU222J
R	180	0.1Ω	CCN1090
R	181	0.1Ω	CCN1090
R	182	0.1Ω	CCN1090
R	183	0.1Ω	CCN1090
R	250		RS1/2PMF100J
R	251		RD1/4PU472J
R	252		RD1/4PU472J
R	253		RD1/4PU223J
R	254		RD1/4PU101J
R	255		RD1/4PU473J
R	256		RD1/4PU101J
R	257		RD1/4PU471J
R	259		RD1/4PU102J
R	260		RD1/4PU621J
R	261		RD1/4PU472J
R	262		RD1/4PU561J
R	263		RD1/4PU333J
R	264		RD1/4PU390J
R	265		RD1/4PU333J
R	266		RD1/4PU821J
R	267		RD1/4PU681J
R	268		RD1/4PU221J
R	269		RD1/4PU470J
R	270		RD1/4PU470J

Circuit Symbol and No.		Part Name	Part No.
R	271		RD1/2PM221J
R	272		RD1/2PM100J
R	273		RD1/2PM100J
R	274		RD1/2PM100J
R	275		RD1/2PM100J
R	278		RD1/4PU222J
R	280	0.1Ω	CCN1090
R	281	0.1Ω	CCN1090
R	282	0.1Ω	CCN1090
R	283	0.1Ω	CCN1090
R	601		RD1/4PU104J
R	602		RD1/4PU104J
R	603		RD1/4PU104J
R	604		RD1/4PU104J
R	605		RD1/4PU105J
R	606		RD1/4PU105J
R	607		RD1/2PM473J
R	608		RD1/2PM473J
R	611		RD1/4PU103J
R	612		RD1/4PU103J
R	613		RD1/4PU223J
R	614		RD1/4PU223J
R	651		RD1/4PU104J
R	652		RD1/4PU103J
R	653		RD1/4PU472J
R	654		RD1/4PU222J
R	655		RD1/4PU472J
R	656		RD1/4PU222J
R	657		RD1/4PU221J
R	658		RD1/4PU102J
R	659		RD1/4PU473J
R	660		RD1/4PU103J
R	661		RD1/4PU103J
R	662		RD1/4PU222J
R	663		RD1/4PU472J
R	664		RD1/4PU392J
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R	666		RD1/4PU103J
R	667		RD1/4PU472J
R	668		RD1/4PU473J
R	669		RD1/4PU221J
R	670		RD1/4PU152J
R	671		RD1/4PU472J
R	672		RD1/4PU101J
R	673		RD1/4PU223J
R	674		RD1/4PU223J
R	675		RD1/4PU223J
R	801		RD1/4PU223J
R	802		RD1/4PU223J
R	805		RD1/4PU821J
R	806		RD1/4PU821J
R	807		RD1/4PU223J
R	808		RD1/4PU223J
R	809		RD1/4PU223J
R	810		RD1/4PU103J
R	851		RD1/4PU471J
R	852		RD1/4PU471J
R	853		RD1/4PU223J
R	854		RD1/4PU223J
R	855		RD1/4PU103J
R	856		RD1/4PU103J
R	857		RD1/4PU332J
R	858		RD1/4PU332J
R	859		RN1/4PC1002D
R	860		RN1/4PC1002D
R	861		RN1/4PC1002D
R	862		RN1/4PC1002D
R	863		RN1/4PC7501D
R	864		RN1/4PC7501D
R	865		RN1/4PC7501D

=====Circuit Symbol and No.		===Part Name	Part No.
R	866		RN1/4PC7501D
R	901		RD1/4PU391J
R	902		RD1/4PU473J
R	951		RD1/4PU103J
R	952		RD1/4PU223J
R	953		RD1/4PU392J
R	954		RD1/4PU153J
R	956		RD1/4PU153J
R	957		RD1/4PU102J
R	958		RD1/4PU512J
R	959		RD1/4PU472J
R	960		RD1/4PU272J
R	961		RD1/4PU272J
R	962		RD1/4PU272J
R	963		RD1/4PU472J
R	964		RD1/4PU153J
R	965		RD1/4PU182J
R	966		RD1/4PU223J
R	967		RD1/4PU182J
R	968		RD1/4PU123J
R	969		RD1/4PU472J
R	970		RD1/4PU472J
R	971		RD1/4PU101J
R	972		RD1/4PU124J
R	973		RD1/4PU124J
R	974		RD1/4PU222J
R	975		RD1/4PU472J
R	976		RD1/4PU332J
R	977		RD1/4PU221J
R	978		RD1/4PU332J
R	979		RD1/4PU332J
R	980		RD1/4PU472J
R	981		RD1/4PU472J
R	982		RD1/4PU470J
R	983		RD1/4PU470J
R	984		RD1/4PU470J
R	985		RD1/4PU470J
R	986		RD1/4PU470J
R	987		RD1/4PU470J
R	988		RS1/2PMF220J
R	989		RS1/2PMF220J
R	990		RD1/2PM470J
R	991		RD1/2PM470J
R	992		RD1/4PU472J
R	993		RD1/4PU472J
R	994		RD1/2PM221J
R	995		RD1/2PM221J
R	996		RS1/2PMF220J

CAPACITORS

C	150		CFTLA333J50
C	151		CEKA470M50
C	152		CEKA470M50
C	153		CEKA470M50
C	154		CEKA470M50
C	155		CEKA100M16
C	156		CQPA221G2A
C	157		CQPA102G2A
C	158		CEKA101M16
C	159		CMA150J2H
C	160		CMA330J2H
C	161		CFTLA104J50
C	162		CFTLA104J50
C	163		CMA101J2H
C	164		CMA101J2H
C	165		CQPA102G2A
C	166		CFTLA104J50
C	167		CFTLA104J50
C	170		CFTLA103J50
C	178		CQPA471G2A

=====Circuit Symbol and No.		===Part Name	Part No.
C	250		CFTLA333J50
C	251		CEKA470M50
C	252		CEKA470M50
C	253		CEKA470M50
C	254		CEKA470M50
C	255		CEKA100M16
C	256		CQPA221G2A
C	257		CQPA102G2A
C	258		CEKA101M16
C	259		CMA150J2H
C	260		CMA330J2H
C	261		CFTLA104J50
C	262		CFTLA104J50
C	263		CMA101J2H
C	264		CMA101J2H
C	265		CQPA102G2A
C	266		CFTLA104J50
C	267		CFTLA104J50
C	270		CFTLA103J50
C	278		CQPA471G2A
C	651	220µF/10V	CCH1036
C	652		CFTLA103J50
C	653		CFTLA103J50
C	654		CEAS100M16
C	655		CEAS100M16
C	656		CEAS101M16
C	657		CFTLA103J50
C	659		CEAS220M16
C	660	470µF/16V	CCH1183
C	661		CFTLA103J50
C	662		CFTLA103J50
C	801		CQMA471J50
C	802		CQMA471J50
C	803		CEAS100M16
C	804		CEAS100M16
C	805		CCPUSL470J50
C	851		CQMA471J50
C	852		CQMA471J50
C	853		CEAS100M16
C	854		CEAS100M16
C	855		CFTLA223J50
C	856		CFTLA223J50
C	857		CCPUSL470J50
C	858		CCPUSL470J50
C	859		CCPUSL470J50
C	860		CCPUSL470J50
C	901	4700µF/16V	CCH1310
C	902		CFTLA224J50
C	903		CFTLA104J50
C	904		CFTLA104J50
C	951		CEAS100M16
C	952		CEAS221M10
C	953		CQPA102G2A
C	954		CFTLA105J50
C	955		CEAS101M16
C	956		CFTLA564J50
C	957		CFTLA564J50
C	959		CFTLA104J50
C	960		CFTLA104J50
C	961		CFTLA273J50
C	962		CFTLA273J50
C	963	4700µF/16V	CCH1310
C	964		CEAS332M35
C	965		CEAS332M35
C	966		CEAS332M35
C	967		CEAS332M35
C	968		CEAS471M35
C	969		CEAS471M35
C	970		CEAS470M16
C	971		CEAS470M16

=====Circuit Symbol and No.	===Part Name	Part No.
C 972		CEAS101M16
C 973		CEAS101M16
C 974		CEKA471M50
C 975		CEKA471M50
C 976		CQPA102G2A
C 995		CFTLA104J50
C 996		CFTLA104J50

CONTRAST TABLE OF AMP UNIT

GM-X922/X1R/UC, GM-X922/X1R/ES, GM-X922/X1R/EW and GM-X1022/X1R/UC are constructed the same except for the following:

Symbol and Description	Part No.			
	GM-X922/X1R/UC	GM-X922/X1R/ES	GM-X922/X1R/EW	GM-X1022/X1R/UC
S901 Switch	Not used	HSH-156	HSH-156	Not used
R955	Not used	RD1/4PU105J	RD1/4PU105J	Not used
D903, 904 LED	NSPBF50S(VQ)	NSPBF50S(VQ)	NSPBF50S(VQ)	NSPWF50S(AQ)

NETWORK UNIT
Consists of
FIL UNIT
B.B UNIT

B C Unit Number : HWG0014
Unit Name : Network Unit

MISCELLANEOUS

IC	501	IC	NJM2068S
IC	502	IC	NJM2068S
IC	551	IC	NJM2068S
IC	552	IC	NJM2068S
S	501	Switch	CSH1021
VR	501	Volume 20kΩ(E)	CCS1267
VR	502	Volume 10kΩ(A)	CCS1265
VR	551	Volume 10kΩ(C)	CCS1268

RESISTORS

R	501	RD1/4PU103J
R	502	RD1/4PU103J
R	503	RD1/4PU103J
R	504	RD1/4PU103J
R	505	RD1/4PU103J
R	506	RD1/4PU103J
R	507	RD1/4PU222J
R	508	RD1/4PU222J
R	509	RD1/4PU101J
R	510	RD1/4PU101J
R	551	RD1/4PU331J
R	552	RD1/4PU331J
R	555	RD1/4PU182J
R	556	RD1/4PU182J
R	557	RD1/4PU221J
R	558	RD1/4PU221J
R	559	RD1/4PU182J
R	560	RD1/4PU182J
R	561	RD1/4PU103J
R	562	RD1/4PU103J
R	563	RD1/4PU333J
R	564	RD1/4PU333J
R	565	RD1/4PU0R0J
R	566	RD1/4PU0R0J

CAPACITORS

C	501	CFTLA184J50
C	502	CFTLA184J50
C	503	CFTLA273J50
C	504	CFTLA273J50
C	505	CFTLA474J50
C	506	CFTLA474J50
C	551	CFTLA273J50
C	552	CFTLA273J50
C	553	CEAS4R7M50
C	554	CEAS4R7M50
C	555	CFTLA334J50
C	556	CFTLA334J50
C	560	CEAS220M50

CONTRAST TABLE OF NETWORK UNIT

GM-X922/X1R/UC, GM-X922/X1R/ES, GM-X922/X1R/EW and GM-X1022/X1R/UC are constructed the same except for the following:

Symbol and Description	Part No.			
	GM-X922/X1R/UC	GM-X922/X1R/ES	GM-X922/X1R/EW	GM-X1022/X1R/UC
S551 Switch	Not used	CSH1021	CSH1021	Not used
V552 Volume 50kΩ(C)	Not used	CCS1263	CCS1263	CCS1263
R553, 554	Not used	RD1/4PU822J	RD1/4PU822J	RD1/4PU822J
R563, 564	RD1/4PU333J	Not used	Not used	Not used
R565, 566	RD1/4PU0R0J	Not used	Not used	Not used

6. ADJUSTMENT

No.	Item	Conditions	Adjustment point	Specifications
1	Idling current (adjustment)	Input ; adjust 30 seconds after 1kΩ terminate power is switched on, and within 20 seconds.	VR151(Lch) VR251(Rch)	mV Meter(1) : 20±6mV
2	DC-DC Converter voltage (adjustment)	Input ; adjust 30 seconds after 1kΩ terminate power is switched on, and within 20 seconds.	VR951	mV Meter(2) : 35±3V

● **Connection Diagram**

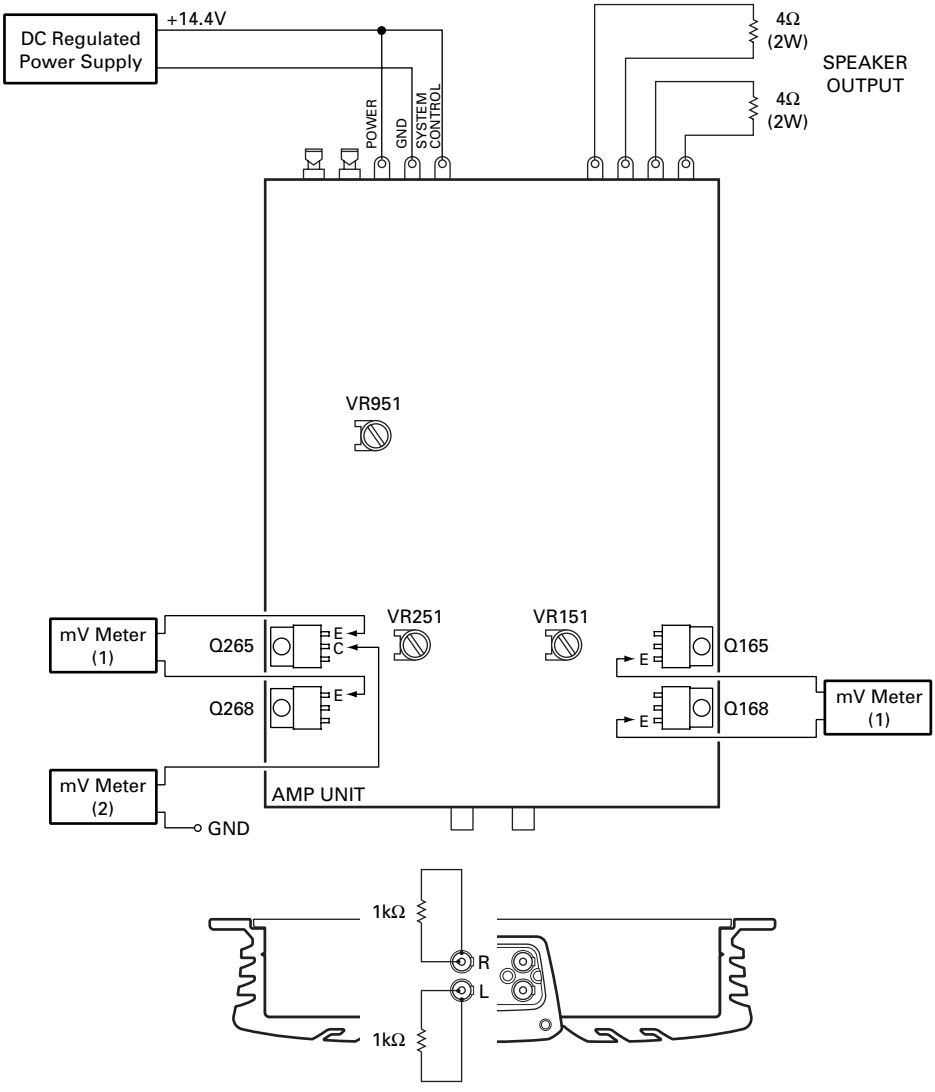


Fig. 6

7. GENERAL INFORMATION

7.1 IC

PA2027A

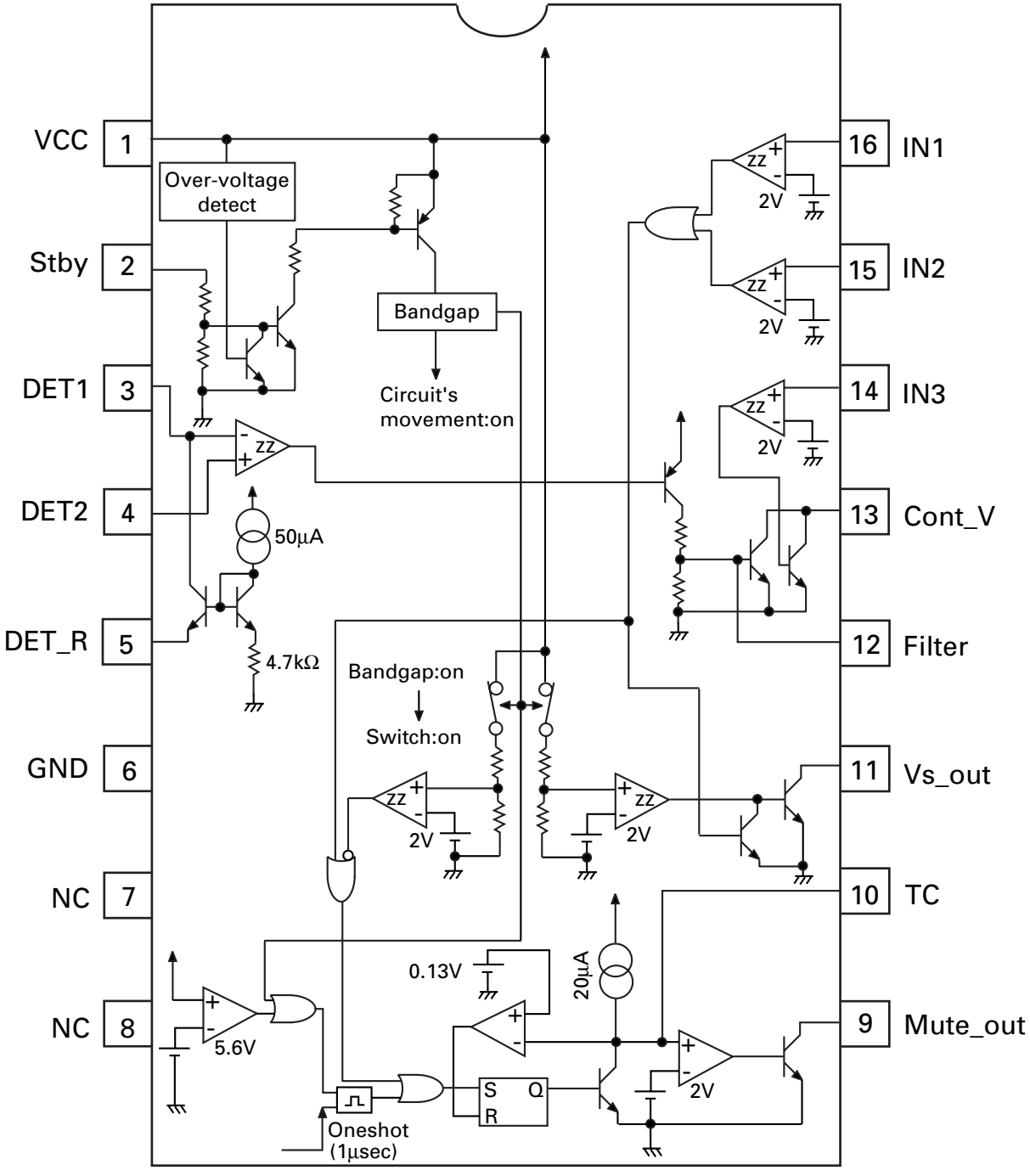


Fig. 7

7.2 DISASSEMBLY

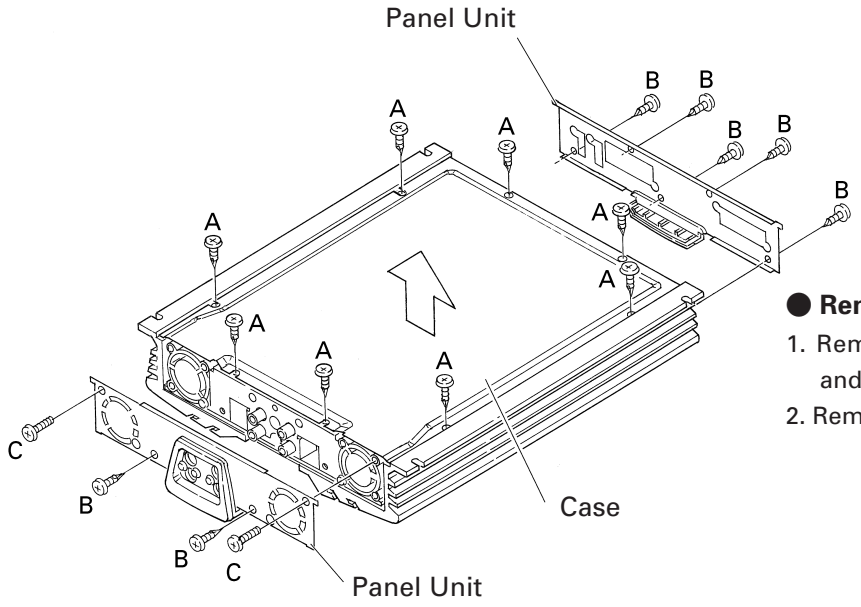


Fig. 8

● **Removing the Case and the Panel Unit**

1. Remove eighteen screws A, seven screws B and two screws C.
2. Remove Case and Panel Unit.

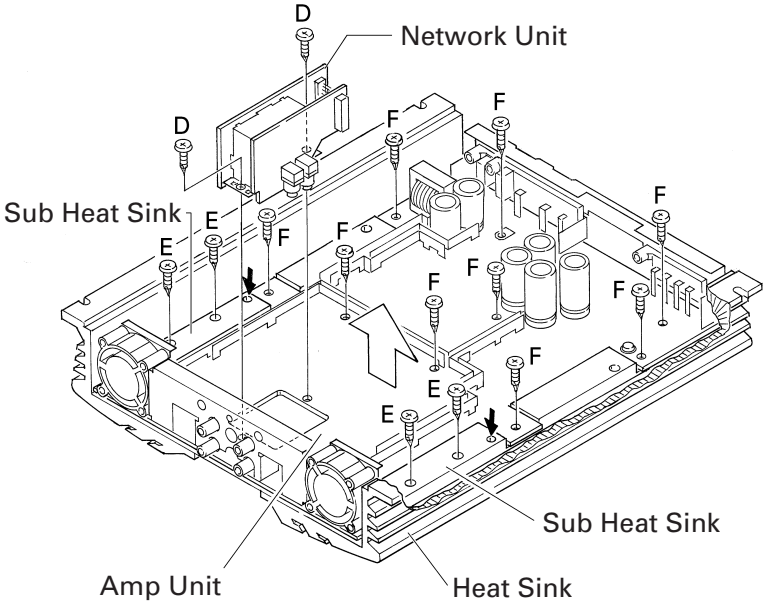


Fig. 9

● **Removing the Network Unit and the Amp Unit**

Some silicone glue has been applied between the Heat Sink and the Sub Heat Sink. therefore, to remove the Amp Unit from the Heat Sink.

1. Remove two screws D.
2. Remove Network Unit.
3. Remove four screws E and nine screws F.
4. Use 2 pcs. of screw E and insert them into the two holes marked with an arrow.
5. Alternately tighten them little by little until the Sub Heat Sink separates from the Heat Sink.

Gain Control

If the sound level is too low, even when the volume of the car stereo used along with this power amplifier is turned up, turn gain control on the back of the power amplifier clockwise. If the sound distorts when the volume is turned up, turn the gain control counter-clockwise.

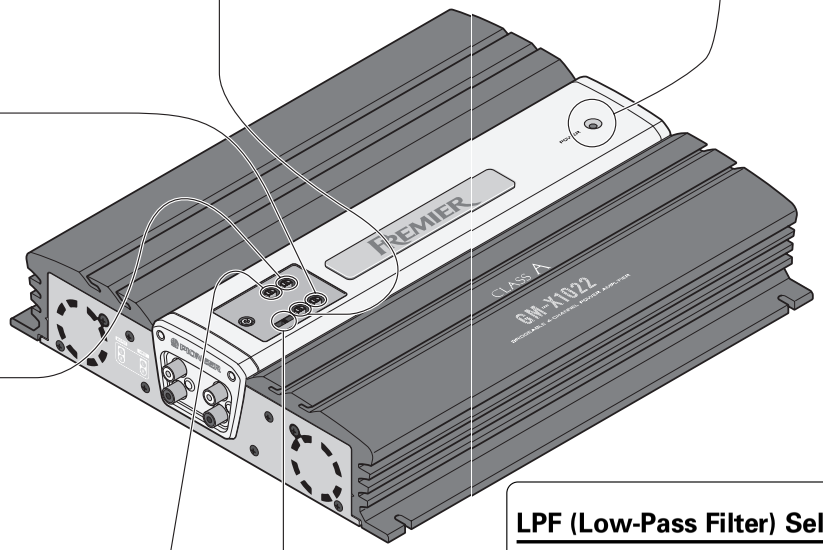
- Set the gain control to “NORMAL” when this amplifier is connected to a Pioneer car stereo with RCA output jacks. If the sound level is too low or distorts, adjust the gain control.
- Adjust the gain control to the “MIN” side of “NORMAL” when this amplifier is connected to a Pioneer car stereo (High voltage output type).

Cut Off Frequency Control

If the LPF select switch is set to LPF, you can select a cut off frequency from 50 to 120Hz.

Power Indicator

The power indicator lights when the power is switched on.



Bass Boost Level Control

Bass boost level control can boost the level around the frequency selected by the bass boost frequency control from 0 to 12 dB.

Bass Boost Frequency Control(GM-X1022)

You can select a bass boost frequency from 40 to 120 Hz with the bass boost control.

LPF (Low-Pass Filter) Select Switch

Set the LPF select switch as follows according to the type of speaker that is connected to the speaker output connector and the car stereo system:

LPF Select Switch	Audio frequency range to be output	Speaker Type	Remarks
ON (right)	* — 50 to 120 Hz	Sub-woofer	Connect a sub-woofer.
OFF (left)	Full range	Full range	

* See the “Cut Off Frequency Control” section.

Fig. 10

Connection Diagram

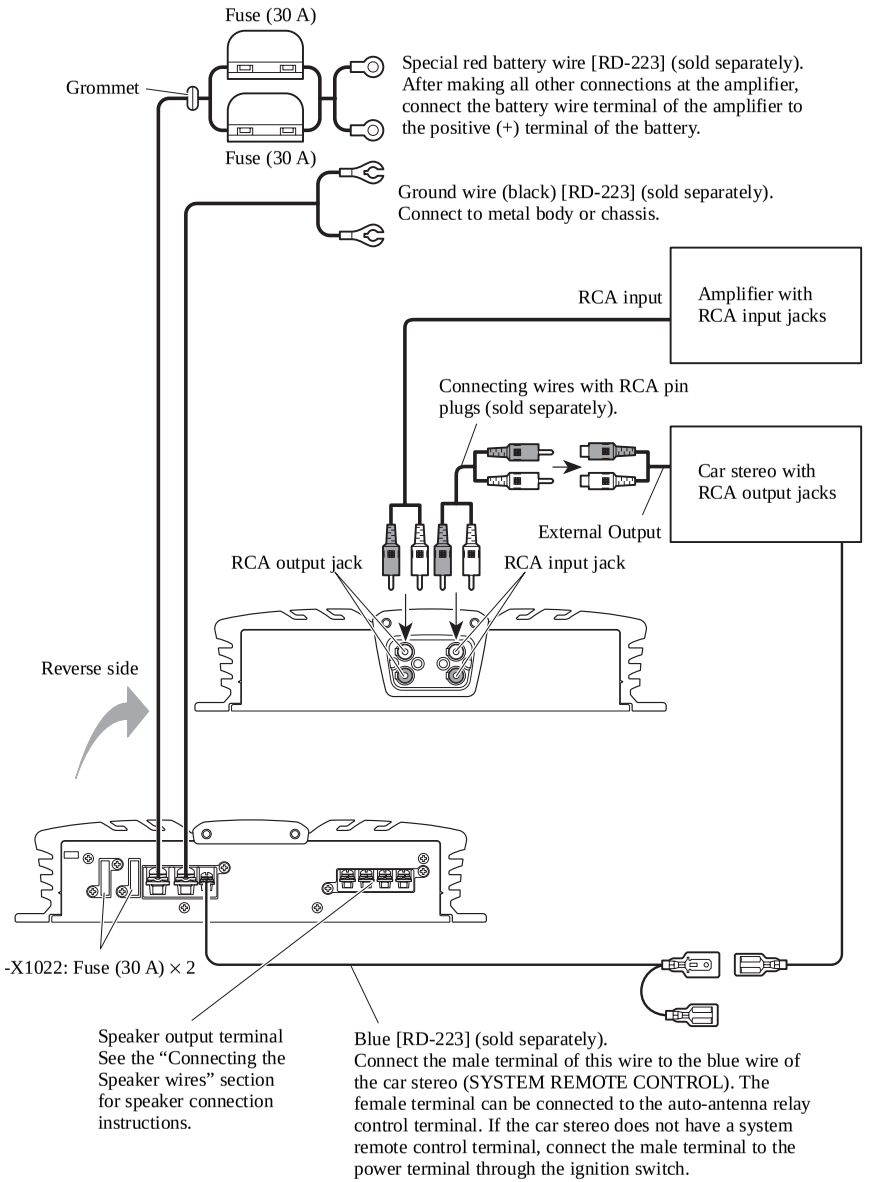

Fuse (30 A)
Grommet
Special red battery wire [RD-223] (sold separately). After making all other connections at the amplifier, connect the battery wire terminal of the amplifier to the positive (+) terminal of the battery.
Fuse (30 A)
Ground wire (black) [RD-223] (sold separately). Connect to metal body or chassis.
RCA input
Amplifier with RCA input jacks
Connecting wires with RCA pin plugs (sold separately).
Car stereo with RCA output jacks
External Output
RCA output jack
RCA input jack
Reverse side
-X1022: Fuse (30 A) × 2
Speaker output terminal See the "Connecting the Speaker wires" section for speaker connection instructions.
Blue [RD-223] (sold separately). Connect the male terminal of this wire to the blue wire of the car stereo (SYSTEM REMOTE CONTROL). The female terminal can be connected to the auto-antenna relay control terminal. If the car stereo does not have a system remote control terminal, connect the male terminal to the power terminal through the ignition switch.

Fig. 11

Connecting the Power Terminal

- Always use the special red battery and ground wire [RD-223], which is sold separately. Connect the battery wire directly to the car battery positive terminal (+) and the ground wire to the car body.

1. Pass the battery wire from the engine compartment to the interior of the vehicle.

- After making all other connections to the amplifier, connect the battery wire terminal of the amplifier to the positive (+) terminal of the battery.

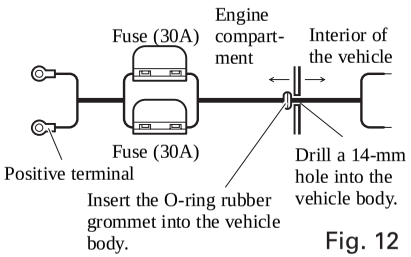

Fuse (30A)
Engine compart-ment
Interior of the vehicle
Fuse (30A)
Positive terminal
Drill a 14-mm hole into the vehicle body.
Insert the O-ring rubber grommet into the vehicle body.

Fig. 12

2. Twist the battery wire, ground wire and system remote control wire.

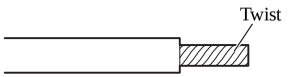


Fig. 13

3. Attach lugs to wire ends. Lugs not supplied.

- Use pliers, etc., to crimp lugs to wires.

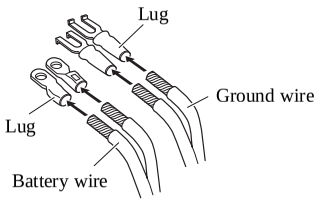


Fig. 14

4. Connect the wires to the terminal.

- Fix the wires securely with the terminal screws.

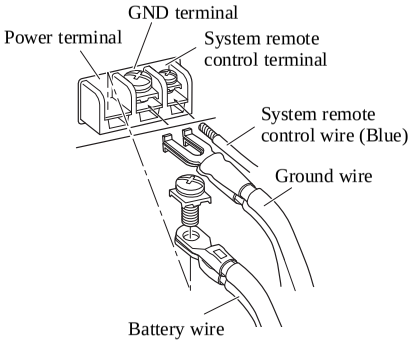


Fig. 15

Connecting the Speaker Output Terminals

1. **Expose the end of the speaker wires by about 10 mm and twist using nippers or a cutter.**

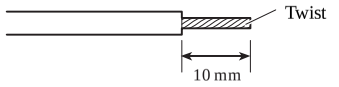


Fig. 16

2. **Attach lugs to speaker wire ends. Lugs not supplied.**
   - Use pliers, etc., to crimp lugs to wires.

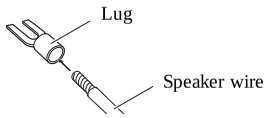


Fig. 17

3. **Connect the speaker wires to the speaker output terminals.**
   - Fix the speaker wires securely with the terminal screws.
   - After pass through the terminal cover, connect the terminal

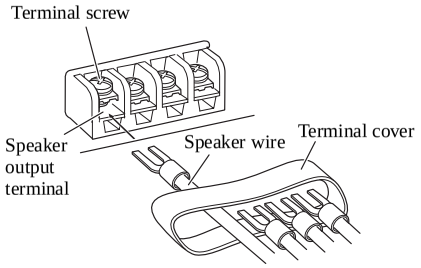


Fig. 18

4. **Cover the terminals.**

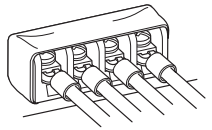


Fig. 19

Connecting the Speaker wires

The speaker output mode can be two-channel (stereo), one-channel (mono), or three-channel (stereo + mono). Connect the speaker leads to suit the mode according to figures on the following pages.

- When connecting to the speaker input, do not connect the RCA output.
- When connecting to the RCA input, do not connect the speaker input.

Two-channel mode (stereo)

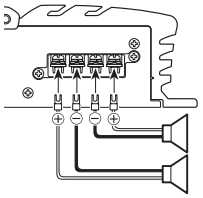


Fig. 20

One-channel mode (mono)

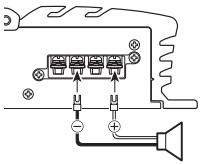


Fig. 21

Three-channel mode (stereo + mono)

The power amplifier is basically a two-channel/one-channel bridgeable amplifier, but three channels can be achieved by combining the stereo and mono modes using inductors and capacitors.

Three-channel mode, two-way system

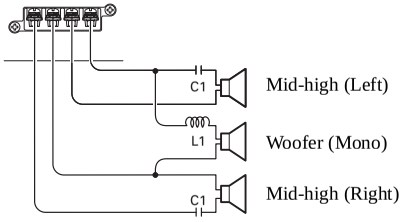


Fig. 22

Three-channel mode, three-way system

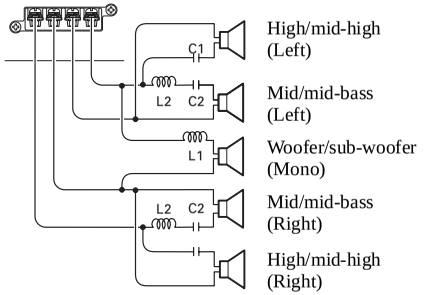


Fig. 23

- Inductors (L1 and L2 in the diagrams) act as low-pass filters. Capacitors (C1 and C2 in the diagrams) act as high-pass filters. Inductors (L) are used for the woofer/sub-woofer, and capacitors (C) are used for the high/mid-high.
- Remember when bridging an amplifier it will see only half of the original speaker impedance. Therefore, you must use speakers that have ratings of 4 ohms or higher. If you use speakers that have lower impedance ratings it may cause damage to the amplifier.
- When the inductors and capacitors are connected to the speaker wires, secure or solder them so they cannot be pulled loose. Tape or use heat shrink on the joints to prevent short circuits.

● SPECIFICATIONS

Power source	14.4 V DC (10.8 — 15.1 V allowable)
Grounding system	Negative type
Current consumption	30 A (at continuous power, 4 Ω)
Average current drawn*	9 A (4 Ω for two channels)
	15 A (4 Ω for one channel)
Fuse	30 A × 2
Dimensions	255 (W) × 61 (H) × 310 (D) mm
	[10 (W) × 2-3/8 (H) × 12-1/4 (D) in.]
Weight	4.1 kg (9.0 lbs.) (Leads for wiring not included)
Maximum power output	200 W × 2 / 600 W × 1 (EIAJ)
Continuous power output	100 W × 2 (at 14.4V, 4 Ω, 20 — 20,000 Hz, 0.04% THD)
	300 W × 1 (at 14.4V, 4 Ω, 20 — 20,000 Hz, 0.4% THD)
	150 W × 2 (at 14.4V, 2 Ω, 20 — 20,000 Hz, 0.4% THD)
Load impedance	4 Ω (1 — 8 Ω allowable)
	(Bridge connection: 2 — 8 Ω allowable)
Frequency response	10 — 65,000 Hz (+0 dB, –1 dB)
Signal-to-noise ratio	107 dB (IHF–A network)
Distortion	0.003% (10 W, 1 kHz)
Separation	73 dB (1 kHz)
Low pass filter	Cut off frequency: 50 — 120 Hz
	Cut off slope: –12 dB/oct
Bass boost (GM-X922)	Frequency: 60 Hz
	Gain: 0 — 12 dB
Bass boost (GM-X1022)	Frequency: 40 — 120 Hz
	Gain: 0 — 12 dB
Input level / impedance	0.4 — 6.5 V/22 kΩ

Note:

- Specifications and the design are subject to possible modification without notice due to improvements.

***Average current drawn**

- The average current drawn is nearly the maximum current drawn by this unit when an audio signal is input. Use this value when working out total current drawn by multiple power amplifiers.